

IN THE CLAIMS:

These claims will replace all prior versions of claims in the present application.

1. (Currently Amended) An information processing system comprising:

(a) a plurality of memory modules, each module having a memory and a control device; and

(b) data transmission paths for connecting the memory modules and transmitting a value from one of the memory modules to other memory modules,

in which each of the memory modules retains a list of values of a first item, ~~or~~ and/or a list of values of a second item to be unified, or the list of values of the first item and the list of values of the second item, the values being ranked in an ascending or descending order without duplication;

~~the information processing system being characterized in that~~

the control device of each of the memory modules comprises:

~~_____~~ i. a data sending means for sending the values included in the value list to the other memory modules;

~~_____~~ ii. a data receiving means for receiving the values included in the value list from the other memory modules; and

~~_____~~ iii. a unifying means for ~~generating a unified value list in view of the values included in the value lists of the first and the second items in all of the other memory modules by referring to the value list of the first item and the value list of the second item in the other memory modules received by the data receiving means~~ referring to the value list of the first item and the value list of the second item in the other memory modules received by the data receiving means and deciding a ranking of the values in the value list of the first item, or the values in the value list of the second item, or the values in the value list of the first item and

the second item, in view of the values included in the value lists of the first and the second items from all of the other memory modules,

the unifying means comprising

a first ranking decision means for referring to the value list of the first item in each of the memory modules or the value list of the second item in each of the memory modules, or the value list of the first item and the value list of the second item, in each of the memory modules as well as the value lists of the first and the second items in the other memory modules received by the data receiving means,

for comparing the values of the value list of the second item in each of the memory modules, the values of the value lists of the first item in the other memory module, or the values of the value lists of the second item in the other memory modules with the values of the value list of the first item of each of the memory modules, and if any of the values in the compared value lists is equal to the values of the value list of the first item in each of the memory modules, deleting the identical value, and

for deciding a global value ranking for the first item in view of the values included in the value lists of the first item and the second item in each of the memory modules and in the value lists of the first item and the second item in the other memory modules and storing the decided ranking in a first global order storage array for storing the global value ranking at a position corresponding to a value of each of the memory modules; and

a second ranking decision means for referring to the value list of the first item in each of the memory modules, or the value list of the second item in each of the memory modules, or the value list of the first item and the value

list of the second item in each of the memory modules, as well as the value lists of the first and the second items in the other memory modules received by the data receiving means,

for comparing the values of the value list of the first item in each of the memory modules, the values of the value lists of the first item in the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the second item in each of the memory modules, and if any of the values in the compared value lists is equal to the values of the value list of the second item in each of the memory modules, deleting said any of the values, and

for deciding a global value ranking for the second item in view of the values included in the value lists of the first item and the second item in each of the memory modules and in the value lists of the first item and the second item in the other memory modules and storing the decided ranking in a second global order storage array for storing the global value ranking at the position corresponding to the value of each of the memory modules.

2. (Canceled)

3. (Currently Amended) The information processing system according to claim 12, wherein characterized in that

~~the first ranking decision means compares the values of the value list of the second item in the each of the memory modules, the values of the value lists of the first item in the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the first item in the each of the memory~~

~~modules to find if any of the values in the compared value list is equal to the values of the value list of the first item of the each of the memory modules and deletes the identical value;~~
——the value list of the first item from which the identical value is deleted is sent to the other memory modules via the data transmission path or to the second ranking decision means by the data sending means;

~~——the second ranking decision means compares the values of the value list of the first item in the each of the memory modules, the values of the value lists of the first item in the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the second item in the each of the memory modules to find if any of the values in the compared value list is equal to the values of the value list of the second item of the memory module and deletes the identical value; and~~
the value list of the second item from which the identical value is deleted is sent to the other memory modules via the data transmission path or to the first ranking decision means by the data sending means.

4. (Currently Amended) The information processing system according to claim 2, wherein ~~or 3, characterized in that~~

the control device of each of the memory modules further comprises:

a first occurrence count array generation means for generating a first occurrence count array storing occurrence counts of the values in the value list of the second item in all the memory modules; and

a second occurrence count array generation means for generating, based on the occurrence counts in the first occurrence count array relating to the value list of the second item ~~in all the memory modules~~, a second occurrence count array storing occurrence counts

of the values of the value list of the first item, the occurrence counts in the second occurrence
count array corresponding to the occurrence counts in the first occurrence count array.

5. (Currently Amended) The information processing system according to claim 4,
wherein~~characterized in that~~

the first occurrence count array generation means generates a local occurrence count
array storing the occurrence counts of the value list of the second item in ~~said~~ each of the
memory modules;

the data sending means sends combinations of the occurrence counts in the local
occurrence count array and the corresponding values in the second global value number
array; and

the first occurrence count array generation means is arranged to refer to the
occurrence counts of the local occurrence count array and the values of the second global
value number array in the other memory modules received by the data receiving means and to
generate the first occurrence count array in view of the occurrence counts in the local
occurrence count array in the other memory modules~~module~~.

6. (Currently Amended) The information processing system according to claim 4, wherein~~or~~
~~5, characterized in that~~

the data sending means sends combinations of the occurrence counts in the first
occurrence count array and the values in the first global order storage array to the other
memory modules; and

the second occurrence count array generation means is arranged to generate a region
for a counter array and a cumulative number array having a size identical to the value list and
used as the second occurrence count array in the storage,

the second occurrence count array generation means is arranged to refer to the occurrence counts in the first occurrence count array in the other memory modules received by the data receiving means, and is arranged to increase a value at a corresponding position in the counter array by a certain value when any of the values in the order storage array in the other memory modules is equal to the value in the first global order storage array in said each of the memory modules, said certain value being said any of the values in the order storage array in the other memory modules and also increase a value at a next storage position number in the cumulative number array by said any of the values in the order storage array in the other memory modules, or increase a value in the cumulative number array at a storage position number next to the position corresponding to the value in the order storage array in the other memory modules by the value in the order storage array in the other memory modules when none of the values in the order storage array in the other memory modules is equal to the values in the first global order storage array in said each of the memory modules, and

the second occurrence count array generation means is arranged to generate a final cumulative number array by accumulating the values of the cumulative number array in the order of the storage position numbers.

7. (Currently Amended) The information processing system according to claim 4, ~~wherein or 5, characterized in that~~

the data sending means sends combinations of the occurrence counts of the first occurrence count array and the values of the first global order storage array to the other memory modules; and

the second occurrence count array generation means is arranged to generate a region for a counter array and a cumulative number array having a size identical to the value list and used as the second occurrence count array in the storage,

the second occurrence count array generation means is arranged to refer to the occurrence counts of the first occurrence count array in the other memory modules received by the data receiving means, and is arranged to increase a value at a corresponding position in the counter array by a certain value when any of the values in the order storage array in the other memory modules is equal to the value in the first global order storage array in said each of the memory modules, said certain value being said any one of values in the order storage array in the other memory modules, and also increase a value at a next storage position number in the cumulative number array by said any of the values in the order storage array in the other memory modules, or increase the value at the corresponding position in the counter array by "1", when none of the values in the order storage array in the other memory modules is equal to the values in the first global order storage array in said each of the memory modules, store an invalid value as the value, at the position corresponding to the value in the order storage array in the other memory modules, in the cumulative number array, and increase the value of the storage position number next to the corresponding position by the value of the order storage array in the other memory modules, and

the second occurrence count array generation means is arranged to accumulate the values of the cumulative number array in the order of the storage position numbers.

8. (Currently Amended) The information processing system according to claim 4, further comprising ~~any one of claims 4 to 7, characterized in that said information processing system~~ further comprises a data readout means for reading out the values in the value list of the first

item based on the occurrence counts in the second occurrence count array so such that duplication of identical values is allowed.

9. (Currently Amended) The information processing system according to claim 6, further comprising: ~~or 7, characterized in that said information processing system further comprises:~~

a data readout means for reading out the values in the value list of the first item based on the occurrence counts of the second occurrence count array so such that duplication of identical values is allowed, wherein

the data readout means is arranged to generate a second cumulative number array indicating a total number of records having the values of the order storage array not exceeding the value of the order storage array of said each of the memory modules by referring to the combinations of the values of the order storage array and corresponding values of the count array of the other memory modules and read out the values in the value list of the first item based on the values of the second cumulative number array, the value of the count array corresponding to the storage position of the second cumulative number, and the value of the final cumulative number array corresponding to the storage position so such that duplication of identical values is allowed.

10. (Currently Amended) An information processing system comprising:

(a) a plurality of memory modules, each module having a memory and a control device; and

(b) data transmission paths for connecting the memory modules and transmitting a value from one of the memory modules to other memory modules, wherein

in which each of the memory modules retains a list of values of a plurality of items, the values being ranked in an ascending or descending order without duplication,

~~the information processing system being characterized in that~~

the control device of each of the memory modules retains a plurality of value lists of combinations of plural unification items including a first item, or and/or a second item to be unified, or a first item and a second item, to be unified and comprises:

i. a data sending means for sending the values included in the value lists constituting the combinations of the plural unification items to the other memory modules;

ii. a data receiving means for receiving the values included in the value lists constituting the combinations of the plural unification items from the other memory modules; and

iii. a unifying means for referring to the value list of the first item and the value list of the second item constituting the combinations of the unification items for each of the combinations from of the unification items in the other memory modules received by the data receiving means, and for deciding a ranking of the values in the value list of the first item, or the values in the value list of the second item, or the values in the value list of the first item and the values in the value list of the second item, for each of the combinations of the unification items to generate a unified value list in view of the values included in the value lists of the first item and the second item constituting the combinations of the unification items of all of the other memory modules, wherein

the unifying means comprises

a first ranking decision means for referring to the value list of the first item in each of the memory modules, or the value list of the second item in each of the memory modules, or the value list of the first item and the value list of the second item in each of the memory modules, as well as the value lists of the first item and the second item from the other memory modules received by the data receiving means,

for comparing the values of the value list of the second item in each of the memory modules, the values of the value lists of the first item from the other memory modules, or the values of the value lists of the second item from the other memory modules with the values of the value list of the first item in each of the memory modules, and if any of the values in the compared value list is equal to the values of the value list of the first item in each of the memory modules, deleting said any of the values, and

for deciding a global value ranking for the first item in view of the values included in the value lists of the first item and the second item in each of the memory modules as well as the other memory modules and storing the decided ranking in a first global ranking storage array for storing the global value ranking at a position corresponding to the value of each of the memory modules; and

the second ranking decision means for referring to the value list of the first item in each of the memory modules, or the value list of the second item in each of the memory modules, or the value list of the first item and the value list of the second item in each of the memory modules, as well as the value lists of the first item and the second item from the other memory modules received by the data receiving means,

for comparing the values of the value list of the first item in each of the memory modules, the values of the value lists of the first item from the other memory modules, or the values of the value lists of the second item from the other memory modules with the values of the value list of the second item in each of the memory modules and, if any of the values in the compared value

list is equal to the values of the value list of the second item in each of the memory modules, deleting said any of the values, and

for deciding a global value ranking for the second item in view of the values included in the value lists of the first item and the second item in each of the memory modules and the other memory modules and storing the decided ranking in a second global ranking storage array for storing the global value ranking at the position corresponding to the value of each of the memory modules.

11. (Currently Amended) The information processing system according to claim 10, wherein characterized in that

the control device of each of the memory modules comprises;

a multidimensional list generation means for generating lists of multidimensional values obtained by joining the items belonging to each of the combinations of the unification items, the lists of the multidimensional values being a first multidimensional item value list obtained by joining the combinations of the first items in the combinations of the unification items and a second multidimensional item value list obtained by joining the combinations of the second items in the unification items; and

a multidimensional item ranking assigning means for referring to the first multidimensional item value list received by the data receiving means, and for assigning a global value ranking to the first multidimensional items in view of the first multidimensional item value list from of the other memory modules, as well as, for by referring to the first multidimensional item value list received by the data receiving means, and for assigning a global value ranking to the second multidimensional items in view of the second

multidimensional item value list ~~from~~ of the other memory modules ~~by referring to the second~~
~~multidimensional item value list received by the data receiving means.~~

12. (Currently Amended) The information processing system according to claim 11,
wherein~~characterized in that~~

the control device of each of the memory modules further comprises:

a first occurrence count array generation means for generating a first occurrence count
array storing occurrence counts of the values included in the second multidimensional item
value list in all the memory modules; and

a second occurrence count array generation means for generating a second occurrence
count array storing occurrence counts of the values included in the first multidimensional
item value list corresponding to the occurrence counts in the first occurrence count array
~~based on the occurrence counts in the first occurrence count array relating to the second~~
multidimensional item value list in all the memory modules.

13. (Currently Amended) The information processing system according to claim 12,
~~characterized in that said information processing system further comprising~~comprises a data
readout means for reading out the values from the first multidimensional item value list based
on the occurrence counts in the second occurrence count array ~~so~~such that duplication of
identical values is allowed.

14. (Currently Amended) A method for unifying a value list in an information processing
system, wherein the system comprises ~~comprising~~:

a plurality of memory modules, each module having a memory and a control device;
and

data transmission paths for connecting the memory modules and transmitting a value from one of the memory modules to other memory modules, wherein

each of the memory modules retains a list of values of a first item, or and/or a list of values of a second item to be unified, or the list of values of the first item and the list of values of the second item to be unified, the values being ranked in an ascending or descending order without duplication,

wherein characterized in that the method comprises, ~~in~~ in the control device of each of the memory modules;

(a) a data sending step for sending the values included in ~~the~~ value lists to the other memory modules;

(b) a data receiving step for receiving the values included in ~~the~~ value lists from the other memory modules; and

(c) a unifying step for referring to the value list of the first item and the value list of the second item of ~~in~~ the other memory modules received in the data receiving step and for generating a unified value list in view of the values included in the value lists of the first and the second items of all of the other memory modules, and for deciding a ranking of the values in the value list of the first item, or the values in the value list of the second item, or the values in the value list of the first item and the value list of the second item, in view of the values included in the value lists of the first and the second items from all of the other memory modules;

the unifying step comprising

i. a first ranking decision step

(i-1) for referring to the value list of the first item in each of the memory modules, or the value list of the second item in each of the memory modules, or the value list of the first item and the value list of the second item

in each of the memory modules, as well as the value lists of the first and the second items in the other memory modules received in the data receiving step;

(i-2) for comparing the values of the value list of the second item in each of the memory modules, the values of the value lists of the first item in the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the first item in each of the memory modules and, if any of the values in the compared value list is equal to the values of the value list of the first item in each of the memory modules, deleting said any of the values; and

(i-3) for deciding a global value ranking for the first item in view of the values included in the value lists of the first item and the second item in each of the memory modules and in the value lists of the first item and the second item in the other memory modules and storing the decided ranking in a first global order storage array for storing the global value ranking at a position corresponding to a value of each of the memory modules; and

ii. a second ranking decision step

(ii-1) for referring to the value list of the first item in each of the memory modules, or the value list of the second item in each of the memory modules, or the value list of the first item and the value list of the second item in each of the memory modules, as well as the value lists of the first and the second items in the other memory modules received in the data receiving step;

(ii-2) for comparing the values of the value list of the first item in each of the memory modules, the values of the value lists of the first item in the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the second item

in each of the memory modules and, if any of the values in the compared value list is equal to the values of the value list of the second item in each of the memory modules deleting the identical value; and

(ii-3) for deciding a global value ranking for the second item in view of the values included in the value lists of the first item and the second item in each of the memory modules and the other memory modules and storing the decided ranking in a second global order storage array for storing the global value ranking at the position corresponding to the value of each of the memory modules.

15. (Canceled)

16. (Currently Amended) The method according to claim 1415, ~~wherein the first ranking decision step comprising:~~

~~—— comparing the values of the value list of the second item in the each of the memory modules, the values of the value lists of the first item in the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the first item in the each of the memory modules and if any of the values in the compared value list is equal to the values of the value list of the first item in the each of the memory modules deleting the identical value; and~~

~~—— sending the value list of the first item from which the identical value is deleted to the other memory modules via the data transmission path or using the value list of the first item from which the identical value is deleted as a object to be processed in the second ranking decision step; and~~

~~—— the second ranking decision step comprises the steps of:~~

~~_____ comparing the values of the value list of the first item in the each of the memory modules, the values of the value lists of the first item of the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the second item in the each of the memory modules and if any of the values in the compared value list is equal to the values of the value list of the second item in the each of the memory modules, deleting the identical value; and~~

~~_____ sending the value list of the second item from which the identical value is deleted to the other memory modules via the data transmission path or using the value list of the second item from which the identical value is deleted as a object to be processed in the first ranking decision step~~

the value list of the first item from which the identical value is deleted is sent to the other memory modules via the data transmission path or becomes an object to be processed in the second ranking decision step, and

the value list of the second item from which the identical value is deleted is sent to the other memory modules via the data transmission path or becomes an object to be processed in the first ranking decision step.

17. (Currently Amended) The method according to claim 15 or 16, ~~wherein~~ characterized in that, in the control device of each of the memory modules, the method further comprises:

a first occurrence count array generation step for generating a first occurrence count array storing occurrence counts of the values ~~of~~ in the value list of the second item in all the other memory modules; and

a second occurrence count array generation step for generating a second occurrence count array storing occurrence counts of the values in the value list of the first item corresponding to the occurrence counts in the first occurrence count array based on the

occurrence counts ~~in~~ of the first occurrence count array relating to the value list of the second item in all the other memory modules.

18. (Currently Amended) The method according to claim 17, ~~wherein~~ characterized in that the first occurrence count array generation step comprises a step for generating a local occurrence count array storing the occurrence counts of the value list of the second item in ~~said~~ each of the memory modules;

the data sending step comprises a step for sending combinations of the occurrence counts in the local occurrence count array and the values in the second global value number array corresponding to the local occurrence count array to the other memory modules; and

the first occurrence count array generation step comprises a step for referring to the occurrence counts in the local occurrence count array and the values of the second global value number array in the other memory module received in the data receiving step and for generating the first occurrence count array in view of the occurrence counts in the local occurrence count array in the other memory modules.

19. (Currently Amended) The method according to claim 17, ~~wherein~~ or 18, characterized in that

the data sending step comprises a step for sending combinations of the occurrence counts in the first occurrence count array and the values of the first global order storage array to the other memory modules; and

the second occurrence count array generation step comprises:

a step for generating a region for a counter array and a cumulative number array having a size identical to the value list and used as the second occurrence count array in the storage; and

a step for referring to the occurrence counts in the first occurrence count array from the other memory module received in the data receiving step, for increasing a value at a corresponding position in the counter array by a certain value when any of the values in the order storage array in the other memory modules is equal to the value in the first global order storage array in said each of the memory modules, said certain value being said any of the values in the order storage array in the other memory modules and also increasing a value at a next storage position number in the cumulative number array by said any of the values in the order storage array in the other memory modules, or increasing a value in the cumulative number array at a storage position number next to the position corresponding to the value in the order storage array in the other memory modules by the value in the order storage array in the other memory modules when none of the values in the order storage array in the other memory modules is equal to the values in the first global order storage array in said each of the memory modules, and

for generating a final cumulative number array by accumulating the values of the cumulative number array in the order of the storage position numbers.

20. (Currently Amended) The method according to claim 17, ~~wherein or 18, characterized in that~~

the data sending step comprises a step for sending combinations of the occurrence counts of the first occurrence count array and the first global order storage array to the other memory modules; and

the second occurrence count array generation step comprises:

a step for generating a region for a counter array and a cumulative number array having a size identical to the value list and used as the second occurrence count array in the storage; and

a step for referring to the occurrence counts in the first occurrence count array from the other memory module received in the data receiving step, for increasing a value at a corresponding position in the counter array by a certain value when any of the values in the order storage array in the other memory modules is equal to the value in the first global order storage array in ~~said~~ each of the memory modules, said certain value being said any one of values in the order storage array in the other memory modules, and also increasing a value at a next storage position number in the cumulative number array by said any of the values in the order storage array in the other memory modules, or increasing the value at the corresponding position in the counter array by “1”, when none of the values in the order storage array in the other memory modules is equal to the values in the first global order storage array in ~~said~~ each of the memory modules, storing an invalid value as the value, at the position corresponding to the value in the order storage array in the other memory modules, in the cumulative number array; and increasing the value of the storage position number next to the corresponding position by the value of the order storage array in the other memory modules; and

for generating a final cumulative number array by accumulating the values of the cumulative number array in the order of the storage position numbers.

21. (Currently Amended) The method according to claim 17, further comprising:~~any one of claims 17 to 20, characterized in that the method further comprises~~

a data readout step for reading out the values in the value list of the first item based on the occurrence counts in the second occurrence count array such~~so~~ that duplication of identical values is allowed.

22. (Currently Amended) The method according to claim 19, further comprising: ~~or 20,~~
~~characterized in that the method further comprises:~~

a data readout step for reading out the values in the value list of the first item based on the occurrence counts in the second occurrence count array such ~~so~~ that duplication of identical values is allowed, wherein ~~and in that~~

the data readout step comprises:

a step for generating a second cumulative number array indicating a total number of records having the values of the order storage array not exceeding the values of the order storage array of ~~said~~ each of the memory modules by referring to the combinations of the values of the order storage array and corresponding values of the count array of the other memory modules; and

a step for reading out the values in the value list of the first item based on the values of the second cumulative number array, the value of the count array corresponding to the storage position of the second cumulative number, and the value of the final cumulative number array corresponding to the storage position such ~~so~~ that duplication of identical values is allowed.

23. (Currently Amended) A method for unifying a value list in ~~a value lists in~~ control device of each memory module ~~of memory modules~~ in an information processing system, the system comprising:

a plurality of memory modules, each module having a memory and a control device;
and

data transmission paths for connecting the memory modules and transmitting a value from one of the memory modules to other memory modules,

~~in which~~wherein each of the memory modules retains a list of values of a plurality of items, the values being ranked in an ascending or descending order without duplication, wherein

the method comprises:

(a) a list retaining step for retaining value lists of combinations of plural unification items including a first item, ~~or~~and/or a second item to be unified, or the first item and the second item to be unified;

(b) a data sending step for sending values included in the value lists constituting the combinations of the plural unification items to the other memory modules;

(c) a data receiving step for receiving values included in the value lists constituting the combinations of the plural unification items from the other memory modules; and

(d) a unifying step for referring to the value list of the first item and the value list of the second item constituting the combinations of the unification items for each of the combinations of the unification items in the other memory modules received in the data receiving step ~~and generating a unified value list in view of the values included in the value lists of the first and the second items constituting the combinations of the unification items in all of the other memory modules, and for deciding a ranking of the values in the value list of the first item, or the values in the value list of the second item, or the values in the value list of the first item and the values in the value list for the second item, for each of the combinations of the unification items in view of the values included in the value lists of the first and the second items constituting the combinations of the unification items from all of the other memory modules,~~

the unifying step comprising

i. a first ranking decision step

(i-1) for referring to the value list of the first item in each of the memory modules, or the value list of the second item in each of the memory modules, or the value list of the first item and the value list of the second item in each of the memory modules, as well as the value lists of the first and the second items from the other memory modules received in the data receiving step,

(i-2) for comparing the values of the value list of the second item in each of the memory modules, the values of the value lists of the first item in the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the first item in each of the memory modules, and, if any of the values in the compared value list is equal to the values of the value list of the first item in each of the memory modules, deleting the identical value, and

(i-3) for deciding a global value ranking for the first item in view of the values included in the value lists of the first item and the second item in each of the memory modules and the other memory modules and storing the decided ranking in a first global order storage array for storing the global value ranking at a position corresponding to a value of each of the memory modules; and

ii. a second ranking decision step

(ii-1) for referring to the value list of the first item in each of the memory modules, or the value list of the second item in each of the memory modules, or the value list of the first item and the value list of the second item in each of the memory modules, as well as the value lists of the first item and

the second item from the other memory modules received in the data receiving step,

(ii-2) for comparing the values of the value list of the first item in each of the memory modules, the values of the value lists of the first item in the other memory modules, or the values of the value lists of the second item in the other memory modules with the values of the value list of the second item in each of the memory modules, and, if any of the values in the compared value list is equal to the values of the value list of the second item in each of the memory modules, deleting the identical value, and

(ii-3) for deciding a global value ranking for the second item in view of the values included in the value lists of the first item and the second item in each of the memory modules and the other memory modules and storing the decided ranking in a second global order storage array for storing the global value ranking at the position corresponding to the value of each of the memory modules.

24. (Currently Amended) The method according to claim 23, wherein~~characterized in that~~
~~the method further comprises, in the~~ control device of each of the memory modules, the
method further comprises:

(e) a multidimensional list generation step for generating multidimensional value lists obtained by joining the items belonging to each of the combinations of the unification items, the lists of the multidimensional values being a first multidimensional item value list obtained by joining the combinations of the first items in the combinations of the unification items and a second multidimensional item

value list obtained by joining the combinations of the second items in the unification items; and

(f) a multidimensional item ranking assigning step, for referring to the first multidimensional item value list received in the data receiving step, and for assigning a global value ranking to the first multidimensional items in view of the first multidimensional item value list ~~from~~in the other memory modules, as well as, for by referring to the second ~~first~~ multidimensional item value list received in the data receiving step, and for assigning a global value ranking to the second multidimensional items in view of the second multidimensional item value list ~~from~~in the other memory modules ~~by referring to the second multidimensional item value list received in the data receiving step.~~

25. (Currently Amended) The method according to claim 24, wherein, characterized in that in the control device of each of the memory modules, the method further comprises:

(g) a first occurrence count array generation step for generating a first occurrence count array storing occurrence counts of the values included in the second multidimensional item value list in all the memory modules; and

(h) a second occurrence count array generation step for generating a second occurrence count array storing occurrence counts of the values included in the first multidimensional item value list corresponding to the occurrence counts in the first occurrence count array based on the occurrence counts in the first occurrence count array relating to the second multidimensional item value list in all the memory modules.

26. (Currently Amended) The method according to claim 25, further

comprising:~~characterized in that the method further comprises~~

a data readout step for reading out the values from the first multidimensional
item value list based on the occurrence counts in the second occurrence count array
such~~so~~ that duplication of identical values is allowed.